

Appln. No. 10/040,515

Attorney Docket No. 10541-759

I. Listing of Claims

1. (Currently Amended): A combination fitting for regulating fluid flow within generally cylindrical chamber defined in a fluid control apparatus, said fitting comprising:

a generally cylindrical member defining a bore therethrough;

a first end of the bore in fluid communication with a pump outlet;

a second end of the bore in fluid communication with a discharge port;

said the member mounted within ~~said the~~ chamber and having a first end and a second end, the first end having an outer peripheral surface and an end surface; and

~~at least one a~~ channel defined in a portion of the first end of said the member, the channel extending radially from the bore and in fluid communication with the bore, the channel opening axially to the end surface and also opening radially to the outer peripheral surface.

2. (Currently Amended): The combination fitting of claim 1 ~~wherein said at least one channel~~ further comprises comprising a pair of radially extending ~~crossed~~ channels defined on said first end of the member, the pair of channels forming a cross-shape on the end surface.

3. (Currently Amended): The combination fitting of claim 2 wherein said channels ~~having~~ have a rectangular cross-section.

-2-

BRINKS
HOFER
GILSON
LIONE

BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

4. (Original): The combination fitting of claim 1 having two or more channels.
5. (Original): The combination fitting of claim 4 wherein the channels are regularly spaced about the bore.
6. (Original): The combination fitting of claim 5 having four channels regularly spaced at about 90° about the bore.
7. (Original): The combination fitting of claim 4 wherein the channels are irregularly spaced about the bore.
8. (Original): The combination fitting of claim 1 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 14 mm² to about 18 mm².
9. (Original): The combination fitting of claim 1 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 15 mm² to about 17 mm².
10. (Original): The combination fitting of claim 1 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 16 mm² to about 16.5 mm².

-3-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

11. (Original): The combination fitting of claim 1 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of about 16.3 mm².

12. (Original): The combination fitting of claim 1 wherein the at least one channel has a width and a length, and the ratio of the length of the at least one channel to the width of the at least one channel is from about 14:1 to about to 5:3.

13. (Original): The combination fitting of claim 1 wherein the ratio of the length of the at least one channel to the width of the at least one channel is from about 10:1.5 to about 6:2.5.

14. (Original): The combination fitting of claim 1 wherein the ratio of the length of the at least one channel to the width of the at least one channel is about 7:2.33.

15. (Currently Amended): A combination fitting for regulating the flow of fluid having comprising:

a cylindrical member defining a bore therethrough, ;

a first end having a fluid port in fluid communication with the bore and with an automotive power steering mechanism, outlet port of a pump; and

a second end having a fluid port in fluid communication with the bore and with an automotive power steering mechanism outlet port of a pump; and

-4-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

a plurality of posts extending axially at the first end of the cylindrical member,
the plurality of posts being circumferentially spaced to define a plurality of channels
therebetween forming the fluid port of the first end of the cylindrical member.

~~the improvement comprising at least one channel extending radially from the~~
~~bore defined at the first end.~~

16. (Currently Amended): The combination fitting of claim 15 wherein ~~said at~~
~~least one~~ the plurality of channels further comprises a pair of radially extending
~~crossed~~ channels defined on said first end of the member, and forming a cross-
shape in the axial end surface of the first end.

17. (Currently Amended): The combination fitting of claim 16 wherein ~~said~~
~~the~~ channels ~~having~~ have a rectangular cross-section.

18. (Original): The combination fitting of claim 1 having two or more
channels.

19. (Original): The combination fitting of claim 18 wherein the channels are
regularly spaced about the bore.

20. (Original): The combination fitting of claim 19 having four channels
regularly spaced at about 90° about the bore.

-5-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

21. (Original): The combination fitting of claim 18 wherein the channels are irregularly spaced about the bore.

22. (Original): The combination fitting of claim 15 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 14 mm² to about 18 mm².

23. (Original): The combination fitting of claim 15 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 15 mm² to about 17 mm².

24. (Original): The combination fitting of claim 15 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 16 mm² to about 16.5 mm².

25. (Original): The combination fitting of claim 15 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of about 16.3 mm².

26. (Original): The combination fitting of claim 15 wherein the at least one channel has a width and a length, and the ratio of the length of the at least one channel to the width of the at least one channel is from about 14:1 to about 5:3.

-6-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

27. (Original): The combination fitting of claim 15 wherein the ratio of the length of the at least one channel to the width of the at least one channel is from about 10:1.5 to about 6:2.5.

28. (Original): The combination fitting of claim 15 wherein the ratio of the length of the at least one channel to the width of the at least one channel is about 7:2.33.

29. (Cancelled)

30. (Withdrawn): A method of regulating fluid flow in a power steering fluid control apparatus comprising,

providing a hydraulic pump for the delivery of pressurized fluid through a pump outlet,

introducing pressurized fluid from the pump outlet to a fluid output chamber formed in a fluid control cylinder comprising a movable fluid control piston and a combination fitting having a fluid-receiving end, an internal bore therethrough and at least one channel extending radially from the bore disposed in the fluid receiving end of the fitting,

directing at least a portion of said fluid through the internal bore of said combination fitting to a power steering system,

detecting the pressure of the fluid with a pressure sensing orifice,

communicating said pressure through a passageway to a low pressure chamber located at an end of the piston,

-7-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

regulating the position of the piston within the cylinder relative to the pressure of the fluid,

delivering excess fluid to a fluid bypass port

recirculating excess fluid to the pump.

31. (Withdrawn): The method of claim 30 wherein said at least one channel further comprises a pair of radially extending crossed channels defined on said first end of the member.

32. (Withdrawn): The method of claim 31 wherein said channels having a rectangular cross-section.

33. (Withdrawn): The method of claim 30 having two or more channels.

34. (Withdrawn): The method of claim 33 wherein the channels are regularly spaced about the bore.

35. (Withdrawn): The method of claim 34 having four channels regularly spaced at about 90° about the bore.

36. (Withdrawn): The method of claim 33 wherein the channels are irregularly spaced about the bore.

-8-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

37. (Withdrawn): The method of claim 30 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 14 mm² to about 18 mm².

38. (Withdrawn): The method of claim 30 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 15 mm² to about 17 mm².

39. (Withdrawn): The method of claim 30 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of from about 16 mm² to about 16.5 mm².

40. (Withdrawn): The method of claim 30 wherein the at least one channel has a length and a width, wherein the length and the width of the at least one channel define an area of about 16.3 mm².

41. (Withdrawn): The method of claim 30 wherein the at least one channel has a width and a length, and the ratio of the length of the at least one channel to the width of the at least one channel is from about 14:1 to about 5:3.

42. (Withdrawn): The method of claim 30 wherein the ratio of the length of the at least one channel to the width of the at least one channel is from about 10:1.5 to about 6:2.5.

-9-

BRINKS
HOFER
GILSON
ALIONE

BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599

Appln. No. 10/040,515

Attorney Docket No. 10541-759

43. (Withdrawn): The method of claim 30 wherein the ratio of the length of the at least one channel to the width of the at least one channel is about 7:2.33.

44. (Currently Amended): A combination fitting for regulating fluid flow within generally cylindrical chamber defined in a fluid control apparatus, said fitting comprising:

a generally cylindrical member defining a bore therethrough, the bore defining a bore axis;

a first end of the bore in fluid communication with a pump outlet;

a second end of the bore in fluid communication with a discharge port;

said member mounted within said chamber and having a first end and a second end, the first end defining an axial end surface; and

a pair of ~~erossed~~ channels extending radially from the bore and defined on ~~said the~~ first end of the member, the pair of channels crossing each other at a point on the bore axis.

Claims 45-48 (Cancelled)

49. (New): The combination fitting of claim 44, wherein the pair of channels form a cross-shape on the axial end surface.

-10-



BRINKS HOFER GILSON & LIONE
PO Box 10395
Chicago, IL 60611-5599